TRAIL & Landscape

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T R A I L & L A N D S C A P E

THE OTTAWA FIELD-NATURALISTS' CLUB

- Founded 1879 -

President: Dr. T. Mosquin, Box 86, Aylmer East, Quebec
Secretary: Mr. A. W. Rathwell, Can. Wildlife Service

Objectives of the Club: To promote the appreciation, preservation and conservation of Canada's natural heritage; to encourage investigation and publish the results of research in all fields of natural history and to diffuse information on these fields as widely as possible; to support and co-operate with organizations engaged in preserving, maintaining or restoring quality environments for living things.

Club Publications: THE CANADIAN FIELD-NATURALIST, official journal of the Club, devoted to the publishing of research in natural history. TRAIL & LANDSCAPE, a non-technical publication of general interest to local naturalists.

Field Trips, Lectures and other natural history activities are arranged for local members. See inside back cover.

Membership and Subscription Fees:
INDIVIDUAL MEMBERSHIP: $5.00 per year
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TRAIL & Landscape

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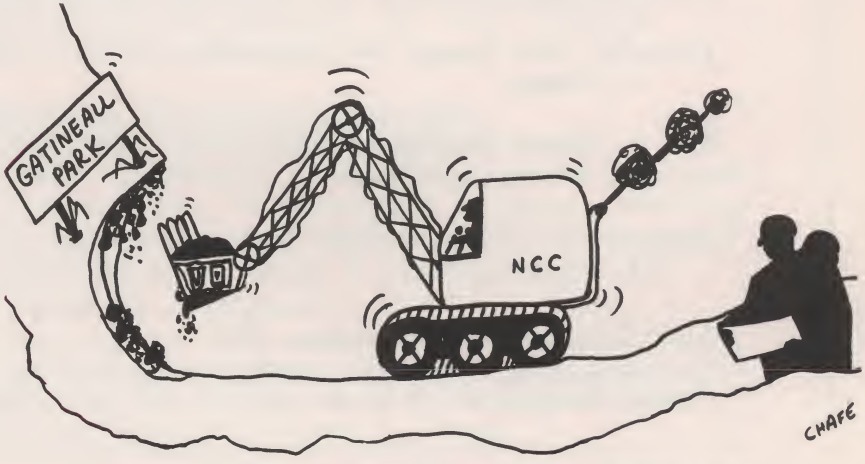
THE OTTAWA FIELD-NATURALISTS' CLUB

Editor: Mrs. G. R. Hanes
18 Briarcliffe Drive
Ottawa 9, Ontario

A MESSAGE FROM THE PRESIDENT

The Ottawa Field-Naturalists' Club has undergone some fundamental and rewarding changes in recent years. We have a new journal, Trail & Landscape; our older journal, The Canadian Field-Naturalist, has expanded in content to include items of general and national importance in the field of environmental conservation. The Constitution was revised and the objectives of the club broadened. Council is becoming more involved in activities similar to those of such organizations as the Federation of Ontario Naturalists. Communication with governments is increasing and, most important, more members, especially youth, are becoming involved in the affairs of our club. Membership in 1969 went up 16%, a clear indication that the club is on a right track.

One immediate problem is Gatineau Park. Plans are now being drawn up for large-scale development of the southern half of the Park. The initiative is being taken by the Planning and Design Branch of the National Capital Commission. The public was not consulted; public hearings were not held. Should Gatineau Park be transformed into an urban planner's dream, it would not be the first time that long-range values were sacrificed for short-range economic gain. In this case, however, even the short-range gain is questionable since the developments that would transform the Park could just as well or better be placed on the open lands of the adjacent municipalities. Just the fact that development plans



Soon this "raw wilderness" will be transformed into the garden spot of the National Capital Area.

can be made (with expenditure of considerable public funds), indicates that special Federal-Quebec legislation is needed for this special Park. At the very least the question of the future of the Park should be openly discussed by all interested segments of the public. Members of our club have a great interest in the Park; let us hear from you so that we may know how to act on your behalf.

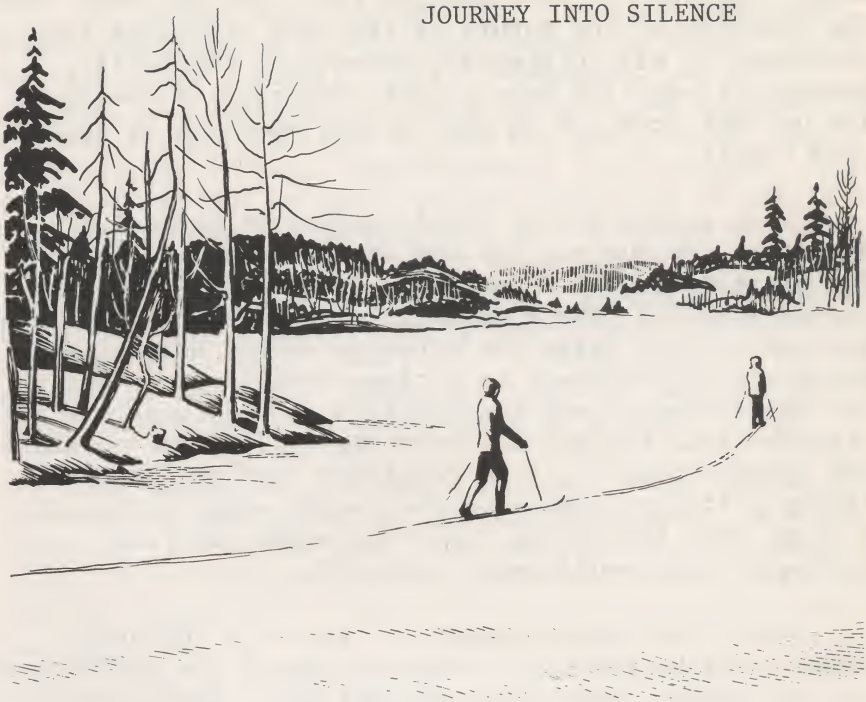
What should be our club's policy on pollution? Should we seriously enter the fight against pollution? For example, should we move (in concert with other organizations) to take a specific clear-cut pollution case to court? Such cases can serve to define more clearly the rights of citizens to a clean environment. One of the objectives in our Constitution is "to cooperate with organizations engaged in restoring quality environments for living things." I am confident that any groups taking pollution issues to the courts would gain much support from the public, from the media and from ecologists who would have to testify.

One of the basic causes of excessive pollution levels and the associated destruction of the environment is, of course, large human populations. Having just returned from a year in California, I can speak with some certainty on this question. Larger and larger areas of what was once a beautiful state are being transformed by sheer human numbers into the most polluted landscape on earth. The lands around Lake Erie are moving in the same direction. To me California and Lake Erie are the handwriting on the wall of the future. It is apparent to anyone who studies today's trends in pollution that all conservation efforts and attempts to build a more just society and a better civilization will prove futile unless the present Malthusian explosion of human numbers can be checked by rational means. To me, the enjoyment of life and living, the enjoyment of unpolluted nature, the preservation and conservation of nature and natural resources, the fight against pollution and polluters, and the efforts to solve the human population problem by rational means, are all intricately inter-related.

These are my thoughts as we enter the 1970's.
Happy New Decade!

Theodore Mosquin

JOURNEY INTO SILENCE



In March come those unbelievable days of burning sun, winter cold, and spring snow...a time for ranging far and wide on skis through Gatineau Park. Now the deep snows of winter are topped with sun-baked crust of spring, and even an inch of powder snowfall makes for silent and effortless travel.

Few outdoor activities can be more rewarding than exploring untracked country with map, compass, and congenial companionship. It has been on such jaunts, complete with all three requirements, that we have discovered the winter haunts of otter in the Park, followed the track of a solitary wolf on a mountaintop, and threaded our precarious way across a steep hillside where the only sound to break the silence was the wind in the giant hemlocks overhead.

Where does one begin such a journey of exploration? Most of the farms that border the Park once had winter roads winding into the heart of the logging country, and these make convenient trails for gaining access to the woods. True, your logging road will sooner or later peter out, in the mysterious manner of logging roads, leaving you to study your topographical map in earnest, perhaps on the frozen surface of some uncharted beaver pond.

The open hardwoods make easy travelling when you are feeling your way through unfamiliar country, but few wild creatures are found here. You might glimpse the giant pileated woodpecker, or wonder at the frequent tracks of fisher, an animal that is supposed to be rare.

The cedar swamps, those terrible tangles full of impediments for the hapless skier, are wonderful wildlife wintering grounds. Here you will find the hideouts of deer and raccoon and cottontail, tunnels of mink and shrew, tracks of weasel and muskrat and mouse. But be warned. The fascination of exploring a cedar swamp in March seems to be inseparable from the frustrations of tangled skis, snarled harness and raked hair.

Out on the frozen lakes you may puzzle over the phenomenon of the browse line, or pause to investigate the frost-feathered breathing hole in the dome of a snowy beaver lodge.

It is worth the day just to stand in the sun on one of these tiny lakes and listen to the silence...an ingredient now so rare in our lives that few will ever experience it. If you would like to tune in to winter silence, once, before it passes into history, do not wait until next year! The silence and solitude of our winter woods are fast going the way of fresh air and clean waters. One day very soon, the last silent valley in Gatineau Park will echo, either to the clatter of ski lift or to the maddening racket of snow vehicle...that is, unless the decision-makers come to recognize that noise is pollution in winter wilderness.

Sheila Thomson

THE BREEDING BIRD SURVEY IN CANADA

by A. J. Erskine

The Breeding Bird Survey is a co-operative attempt by volunteer and professional bird students to detect and measure year-to-year changes in numbers of birds across North America. Man's activities are changing his environment at an ever-increasing rate, in ways which may be expected to affect bird numbers. In recent years, pollution (including that from biocides) has become so massive and widespread that people are concerned whether any living creatures, man included, can long survive. The Breeding Bird Survey is one of several ways in which we hope to monitor changes in bird populations resulting from environmental changes. Methods used elsewhere, such as nesting studies and censuses of sample plots, require observers to restrict their activities to relatively small areas, in marked contrast to the wide-ranging habits of most North American bird watchers. The Breeding Bird Survey was planned with car travel and large areas in mind, and has received enthusiastic support from volunteer assistants.

The procedure used was developed in Maryland by Chandler S. Robbins of the United States Fish and Wildlife Service. It was first used in Canada in 1966, and was used in all provinces except Newfoundland in 1968 and 1969 (Table 1). Operations in Canada are under general supervision of the Canadian Wildlife Service. Each survey is based on a randomly selected starting point and direction, and each comprises 50 stops, of 3 minutes each, at one-half mile intervals along a road. Each route is surveyed once, under favourable conditions, during June, starting one-half hour before sunrise. At each stop, all birds heard and all seen within one-quarter mile are listed on forms, along with data on temperature, wind, clouds, precipitation, and on starting and finishing times.

Year-to-year changes are compared for routes with similar coverage, that is, those with the same observer in successive years, on comparable dates, in similar weather, and adhering to the prescribed procedures.

This system of rating comparability of coverage is more restrictive than that used in the United States because we are dealing with much smaller numbers of surveys, in which surveys not fully comparable between years are more apt to distort the results. Analyses have been made only for reasonable uniform areas within which 15 or more routes received comparable coverage in successive years. Comparisons for the agricultural regions of southern Ontario and southern Quebec in 1968-69 are presented in Table 2. Similar comparisons for the Maritimes for 1966-69 have been summarized as indices, taking 1969 as 100, in Table 3, and results for selected species are plotted in Figure 1.

The total number of birds seen on comparable surveys was markedly greater in the second (and succeeding) years of the survey than in the first year, probably because observers were less confident when unfamiliar with the procedure and route. Accordingly, comparison of the first and second years of surveys in an area assumed that increases of similar size (10.9% in the Maritimes, 9.4% in southern Ontario and Quebec) would be expected in every species. The method for analysing comparisons was devised for the Common Birds Census in Britain (S.M. Taylor, 1965, Bird Study, 12: 268-285), and is outlined in a more detailed publication on the Breeding Bird Survey now in preparation.

Changes were more often detected between the first and second years than between the second and succeeding years. This is perhaps partly a result of the smaller number of comparable surveys available, or of less efficient counting of some common species, in the first years. A number of changes involve erratic species, which breed commonly in a region in one year and not in the next. Examples are Cedar Waxwing and Goldfinch in Ontario and Quebec (Table 2), and Purple Finch and Goldfinch in the Maritimes (Table 3). The major increase in numbers of Blue Jays noted on Maritime surveys in 1968 was apparently owing to the presence of many grouped late migrants of this species on some of the early surveys in that year. Finally, a number of marked decreases from 1966 to 1967 in the Maritimes (Figure 1) are probably attributable to the cold, wet weather of April and May 1967; species which decreased then were either early nesting birds, such as Raven, Crow,

Starling, Grackle, and Song Sparrow, or small, insect-eating species, such as Least Flycatcher, Ruby-crowned Kinglet, Red-eyed Vireo, Yellow and Magnolia Warblers, and Redstart.

The trends shown in Figure 1 suggest that the Survey will adequately detect and describe changes resulting from severe weather during future migration or breeding seasons. It should also detect effects of changes in land use; but since most changes of this type will affect only a few stops on any given route in any one year, the Survey will need to continue for many years before such effects are demonstrable on a province-wide scale. It remains to be seen whether the effects on birds of pollution and pesticides can be demonstrated by this procedure. As data become available, we hope to develop more sophisticated analysis methods to measure the significance of the minor but sustained changes we tend to associate with these influences; our present methods are probably adequate to document any relatively major changes between years.

Some people will object that this is a lot of work to put into a relatively unproven method, and it cartainly is. Yet we do not have the next ten years in which to work out and test this and other methods; by 1980 the effects of man-caused pollution will, if not checked, be upon us, and we will need all the data we can to show what conditions prevailed in earlier times. It is obviously unfortunate that this method was not in use earlier; most of us have impressions that certain species have decreased or increased over a period of years, but we have no satisfactory numerical data to support these beliefs. The Breeding Bird Survey is one way in which we can systematically collect data on bird numbers, and we can use more assistance than we now have.

It is not essential to be able to identify all sounds made by our native birds to take part in these surveys (it does help!). The important thing is to be able to correctly identify the common species, as analyses will usually be restricted to these birds. We find it more helpful to have someone of average competence who can provide coverage for a number of successive years, rather than the local expert who will

be birding in South America next year and in Europe two years after that. Consistent coverage is critical.

Author's note: OFNC members have taken part in three surveys in Ontario and two in Quebec for the last three years. This help has been much appreciated, and we hope it can be continued. There are a number of routes in the Mont Laurier area which have never been surveyed. These will be available in 1970 for anyone who is interested. Contact me, 995-6992 daytime or 722-5382 evenings, for details.

Table 1 Numbers of Breeding Bird Survey routes covered in each province, 1966-69. Duplicate coverages and non-random routes are excluded. No surveys have been made in Newfoundland in any year.

Province	1966	1967	1968	1969
Prince Edward Island	2	4	4	4
Nova Scotia	16	20	20	20
New Brunswick	15	19	22	23
Quebec	3	7	17	20
Ontario		4+[1]	41	40
Manitoba	-	11	12[2]	12
Saskatchewan	-	-	3	6
Alberta	-	-	5	7
British Columbia	-	-	16	16

[1] Results of a number of Ontario routes surveyed in 1967 were lost by the person then acting as provincial coordinator; the number of routes actually covered in that year is unknown.

[2] Includes one survey done from an outboard canoe, with 25 stops each on two successive mornings, around the perimeter of a large lake.

Table 2 Changes in population indices of some common birds on 27 comparable Breeding Bird Survey routes, southern Ontario and southern Quebec, 1968-69.

Species	Total number seen		(assuming 9.4% increase 1968-69) Chi-squared	Per cent change	95% confidence interval of per cent change
	1968	1969			
Upland Plover	56	28	4.57*	-52	-81 to -5 *
Rock Dove	463	370	2,44	-27	-48 to +2
Chimney Swift	107	74	1.84	-36	-63 to +6
Flicker	187	143	1.51	-31	-55 to +1
Tree Swallow	308	252	1.28	-25	-53 to +13
Bank Swallow	511	890	19.8**	+37	-14 to +69
Barn Swallow	764	961	0.85	+13	-10 to +32
Blue Jay	103	148	0.78	+24	-21 to +56
Cedar Waxwing	60	136	10.3**	+53	+16 to +78 *
Starling	4750	5695	1.57	+9	-8 to +24
Red-eyed Vireo	155	199	0.24	+16	-9 to +35
House Sparrow Sparrow	2029	2573	2.55	+14	-10 to +33
Bobolink	990	1218	0.66	+11	-9 to +28
Redwinged Blackbird	2534	3117	1.71	+11	-3 to +23
Grackle	2083	2868	9.5**	+20	+1 to +37 *
American Goldfinch	971	614	28.2**	-42	-57 to -24 **
Savannah Sparrow	1227	1440	0.19	+7	-3 to +17
Chipping Sparrow	365	297	1.56	-26	-39 to -11 *

* Probability less than 5 per cent; chi-squared more than 3.84.
** Probability less than 1 per cent; chi-squared more than 6.64.

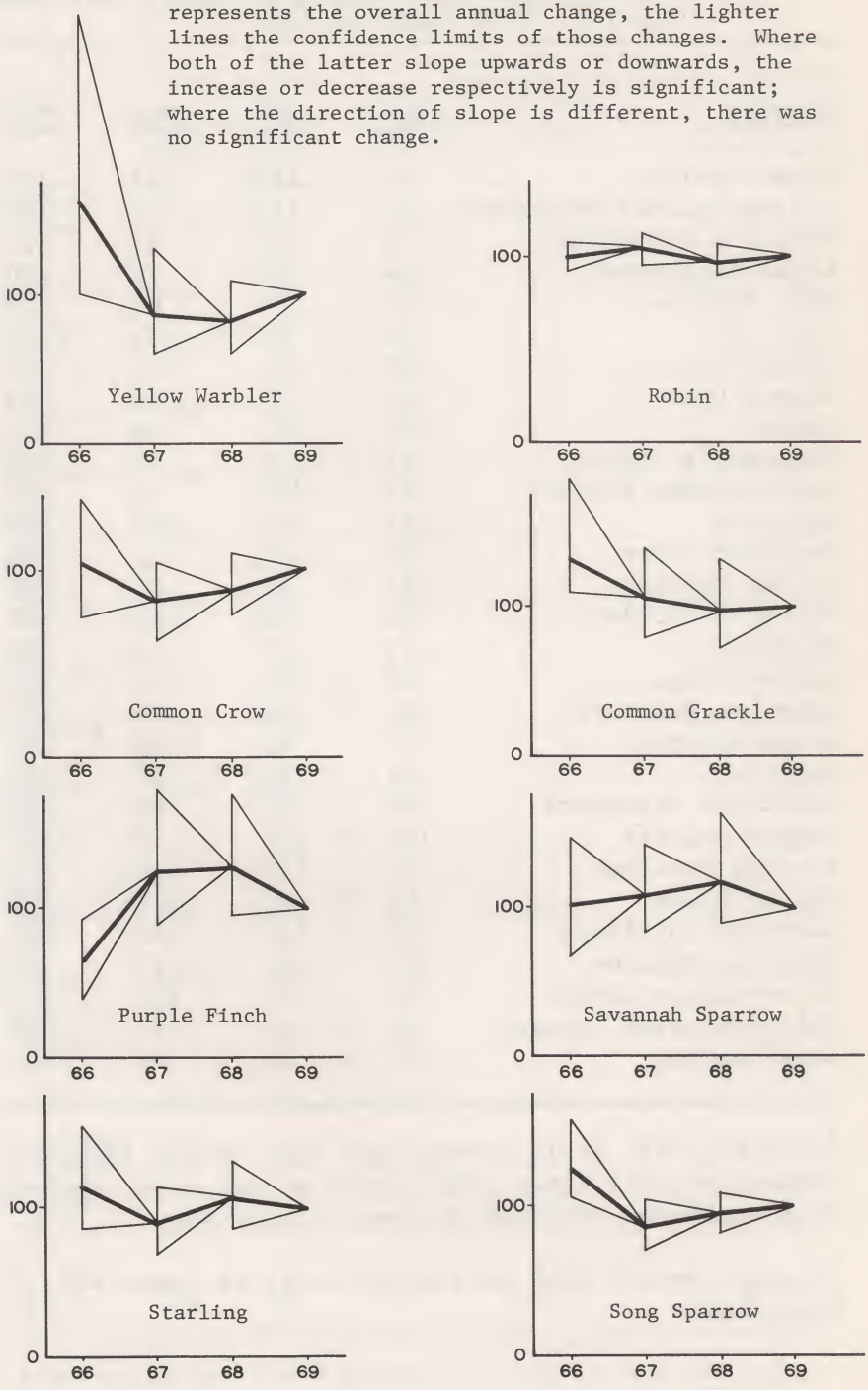
Table 3 Annual index to populations of some common bird species, Breeding Bird Survey, Maritimes, 1966-69. 1969 taken as 100.

Species	1966[1]	1967	1968	1969
Common Snipe	77	(128)	127	100
Yellow-bellied Sapsucker	76	(73)	(71)	100
Traill's Flycatcher	60	(67)	81	100
Least Flycatcher	134 *	(83)	70	100
Barn Swallow	87	102	84	100
Blue Jay	52	69 *	151	100
Common Raven	200 *	116	115	100
Common Crow	102	82	90	100
Robin	100	103	98	100
Swainson's Thrush	79	78	90	100
Ruby-crowned Kinglet	143	(116)	92	100
Starling	113	89	105	100
Red-eyed Vireo	95	(71)	82	100
Yellow Warbler	165 *	89	81	100
Magnolia Warbler	111	(88)	100	100
Ovenbird	71	(75)	76	100
Yellowthroat	99	103	99	100
American Redstart	104 *	(85)	94	100
House Sparrow	82	87	83	100
Bobolink	64	(74)	88	100
Redwinged Blackbird	86	82	85	100
Common Grackle	132 *	104	99	100
Evening Grosbeak	42	(66)	(67)	100
Purple Finch	64 *	125	128	100
American Goldfinch	112 *	153	118	100
Savannah Sparrow	101	107	119	100
Slate-colored Junco	128	133	105	100
White-throated Sparrow	86 *	102	96	100
Song Sparrow	125 *	86	96	100

[1] Data for only 14-18 routes were used in the 1966-67 comparison; all later comparisons except those enclosed in parentheses involved at least 25 routes.

* Changes marked with an asterisk were at least 95% significant.

Figure 1 Population indices for eight major species, 1966-69, Breeding Bird Survey, Maritimes. The central line represents the overall annual change, the lighter lines the confidence limits of those changes. Where both of the latter slope upwards or downwards, the increase or decrease respectively is significant; where the direction of slope is different, there was no significant change.



SQUIRRELS GNAW A GOOD THING WHEN THEY TASTE IT

items from the NEWSLETTER,
Ontario Dept. of Lands and Forests

Black squirrels tell when sap's running ....

If you see black squirrels hanging precariously from the end branches, high in the sugar maple trees, they are likely drinking the sap from the end branches that they have nipped off to start the sap flow.

Maple syrup producers, especially those using plastic hose for sap transportation in areas where black and gray squirrels are plentiful, wish they would stay in the tree tops. They don't! When clear plastic hoselines are used the squirrels seem to be attracted by the small air bubbles that can be seen floating through the lines, and as a result bite holes in the lines, virtually mutilating them in some cases.

Some companies are manufacturing a plastic hose that can't be seen through. This is said to be the most practical means of getting rid of the squirrel menace.

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Coldwater squirrels gnaw maples ....

Because the local black squirrels have a sweet tooth, immature maple trees in the Coldwater area, northwest of Orillia, have a hard time surviving. The squirrels have been biting into these "candy canes" for almost seven years and this winter have spread their activities from Tiny Township into neighbouring Tay and Medonte, and to some parts of Oro Township.

To reach the sweet inner bark which the squirrels relish as food, the outer bark on trees up to six inches in diameter and forty feet in height is stripped off. If a tree is completely girdled at any one point, it will die. Observers believe the fondness for this food is passed from the adult squirrel to its offspring, and as the squirrel population increases and travels farther afield into new areas, tree damage becomes more widespread.

Vol 22 No 8

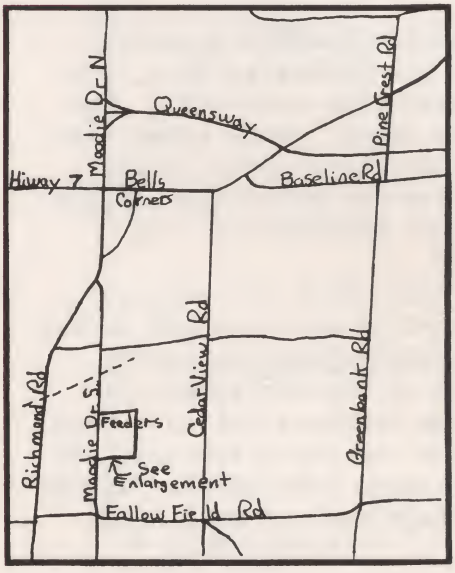
AND NOW A BIRD FEEDING STATION Derek Munro

The OFNC is now the owner of an experimental winter bird feeding station west of Ottawa. This has been set up in the Department of Lands and Forests Nature Area on Moodie Drive, about 2 1/2 miles south of Bell's Corners.

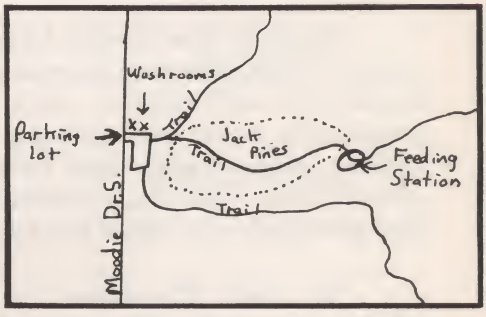
The suggestion for a bird feeding station was brought up at the December meeting of the OFNC, and the Council decided to donate $50 towards the project.

On December 26, 1969, Ron Pittaway, Steven Wragg and I set up two large bird feeders, one with sunflower seeds and the other with chicken scratch, plus a number of suet balls, and millet seed, in the Lands and Forests area.

The Lands and Forests Nature Area was picked for many reasons. It is close to Ottawa and is very easy to find. There is a good variety of winter birds and the swamps and coniferous woods attract great numbers of spring birds during migration. The Nature Area is a new venture for Lands and Forests, and we feel that the feeders will bring the naturalists of Ottawa there. There are many beautiful trails to follow so that people can take two or three hours to walk around.



GENERAL LOCATION MAP



Enlargement of
OFNC BIRD FEEDER AREA

I would like to take this opportunity to thank Mr. Alf Gowdy of Lands and Forests Greenbelt headquarters in Leitrim, and the Kiwanis Club Conservation Committee, for letting the OFNC set up the experimental feeding station in this area.

To this writing (January 15, 1970) there have been five Black-capped Chickadees, 1 Boreal Chickadee, 25 Evening Grosbeaks, 1 White-breasted Nuthatch, 1 Red-breasted Nuthatch, 10 Common Redpolls and 1 Hairy Woodpecker seen at the feeders. The following birds have been seen within a half-mile of the feeders:

30 Black-capped Chickadees	3 Blue Jays
1 Boreal Chickadee	25 Evening Grosbeaks
2 White-breasted Nuthatches	35 Pine Grosbeaks
1 Red-breasted Nuthatch	50 Common Redpolls
3 Hairy Woodpeckers	1 Great Horned Owl
1 Brown Creeper	1 Ruffed Grouse

The easiest way to get to the feeding station is to proceed west on the Queensway until you get to the extreme western end which is presently Moodie Drive North. Turn left on Moodie Drive and proceed south, cross Highway 7 at the lights, and continue south for a mile. Turn left where the sign indicates Moodie Drive South. Continue south past one concession road, under a double set of large power lines, and you will see the Lands and Forests Nature Area about a half mile farther south on the left.

Park the car on the side of the road or in the parking lot if it is open. Walk past the two washrooms and follow straight ahead along the path through the small jack pines. At the other end of the jack pines turn right into the white spruce trees and you will see the feeders. (See map.)

Hopefully the feeding station will soon be well used by the birds because there are many species around. Next fall, if this feeder is a success, the OFNC should consider a similar feeding station erected in the east end of Ottawa in a suitable place.

I hope that many people will not only visit the feeders but will walk around the nature trails because they are worth it.

a WILDFLOWER GARDEN in the CITY

"...wild ginger was prolific..."

"...abundantly favoured
with hepaticas..."

by Muriel W. Weatherburn

For the eighteenth successive spring I have been able to watch with great pleasure, in my own garden, the blooming of a wide variety and abundance of woodland wildflowers. The fact that this has been possible within the boundary of a city, Ottawa, might qualify it as a small success story in conservation. Some of the factors relating to this situation may interest readers of Trail & Landscape.

Some years ago, we searched for a conveniently located lot which would be heavily wooded or backed by a ravine sufficient to ensure privacy while presenting a natural appearance. We heard of a group with similar interests to ours who were forming a small cooperative community. When we learned that purchase of a heavily wooded area was being considered, with preservation of the maximum number of trees to be encouraged, there was no hesitation is our joining the group. Although we would have been satisfied with any of the half-acre lots available we were fortunate that several persons with priority of selection over us were not interested in our preferred location. Thus we obtained our heavily wooded favourite. Location of the house was planned to provide an outdoor living area at the back; the front and side lawn is minimal but seems more than adequate at grass-cutting and leaf-raking times. Curiously, the variety and abundance of wildflowers on our property became apparent only after the house was built and occupied. Our exploratory trips and picnics while clearing space for the house and lawn had been in summer and autumn. Wildflowers appeared as an unexpected bonus. During the first spring and for several successive ones a favourite activity centred around identifying and photographing the various wildflowers. When two nearby homes were constructed, it became apparent that the neighbouring wives were equally enthusiastic about finding blooms on their lots. As might be expected, we eagerly pointed out differences from one lot to another. Our own was abundantly favoured with hepaticas (in several shades of pink and blue), spring beauty, Dutchman's breeches, columbine, trilliums, dogtooth violet, false Solomon's-seal, and violets of several species. Ferns and wild ginger were prolific toward the back of the lot and on the limestone ridge which drops suddenly downward about twenty or thirty feet.

Our landscaping plan involved leaving the wooded area in a natural state - this could be called a programme of planned neglect. We did feel that spring-flowering bulbs could add colour and interest without detracting from the naturalness, and for a number of years daffodils have bloomed with the trilliums among moss-covered rocks and trees. Toward the edge of the woods, where the rocky outcrop adjoins the lawn, small bulbs such as scilla, chionodoxa, pushkinia and snowdrops bloom along with violets (white, yellow and blue), meadowrue, bloodroot, columbine and bellwort. The trees are for the most part ash, elm, maple, basswood and ironwood.

A family camping trip to Algonquin Park provided the idea for a Nature Trail. This is simply a path raked through the leaves each spring. By following the same path each year, footsteps are encouraged to keep within a clearly defined area, footsteps which might have trampled some plants to destruction. This little path has been quite successful; visitors seem to enjoy a short conducted tour past the various woodland flowers. The only problem in maintaining this "area of neglect" as a garden became apparent with the erection of houses on the property immediately to the north. It was inevitable that children would climb the rocky ledge to play in the woods. It was regrettable that in so doing many ferns would be dislodged from their rather precarious holding between the loose rocks. Quite a number of small trees were slashed simply for the joy of wielding pocket knives; many flowers, including trilliums, were picked. When requested to desist from such pleasurable occupations, they faced us with expressions of seemingly genuine surprise, "What garden? Oh, we didn't know this was a garden". After several years, a fence was erected at the boundary of the properties; the ferns seem to be making a rather gradual comeback.

Wildflowers originally on the lot have been retained; additions have been made when opportunities arose. The best example of this occurred when space was cleared for the house to the east of ours. This lot was heavily covered with blue violets and, to a lesser extent, trilliums. The owners were unable to rescue the plants and gave permission for me to move them to our property. These were transferred by the

wheelbarrow load and have bloomed well in their new locale. Another transplanting exercise involved moving jack-in-the-pulpits from the road allowance. Voracious mosquitoes hastened this activity and lessened the number of plants that might have been rescued. The few that were transplanted have thrived.

"...jack-in-the-pulpits thrived..."

"...footsteps are encouraged..."

All photos by the author

While it has been possible to keep the vegetation in a fairly natural state, it has not been possible to prevent many changes in the animal life. Some of these, such as the decline in the mosquito population, have been welcomed; others have not. Considerable changes would be expected not only with development of our own community, but also as a result of the drastic changes in the surrounding neighbourhood. Thus, an apple orchard, a nursery, woods and fields have been replaced by groceterias, government buildings and a hospital, each with its accompanying parking lot. Until the birds became accustomed to the location of houses there were frequent casualties from flight into window panes. Occasionally a brief rest period would suffice to restore energy after the shock but only too often the damage was irreparable. Then a period of repose in aluminum foil in a freezer would be followed by a trip to join the collection at the National Museum. This certainly allowed ample time for proper identification of quite a few species, but was always a sad experience.

Each spring quite an assortment of warblers still passes through the area, but not, I believe, in the number or variety of years gone by. We can still rely on a flicker to pound away at the top of a hydro pole each spring, and on a Baltimore oriole to give a nightly serenade in the summer. Outstanding among bird visitors have been a pileated woodpecker and a yellow-billed cuckoo. Birds that we expect in the winter are chickadees, nuthatches, downy and hairy woodpeckers, evening grosbeaks and purple finches.

We have been sorry to notice a decline in the number of chipmunks and red squirrels, but black squirrels are still very much in evidence. Passersby might notice a wire screen on top of our fireplace chimney; this is a reminder of visits by two black squirrels. If the one which remained in a stunned but alive condition had been first to descend the chimney there might have been just the one occasion. A dead squirrel covered with soot is not as much of a problem in a home as one that is still alive! Skunks have decreased in number. Some years ago a red fox was accustomed to making the grand tour of the property each morning. Times have changed to such an extent that if such were to happen now the fox would probably be suspected of having rabies. Raccoons, groundhogs and

"...in a fairly natural state..."

baneberry

Canada violet

rabbits are still around; the rabbits seem to be on the increase.

In putting into writing these observations it has been necessary to look backwards to the beginning of this housing development. To go back even further, my own interest in property such as this really began in childhood. I am pleased to acknowledge the encouragement of an older brother who was ever so patient with his kid sister and always willing to let her tag along on walks up the Don Valley in Toronto. It was Len's willingness to point out any item of interest be it bird, flower, or fossil, and then to track it down in one of his pocket guidebooks (or better still in my very own books of the dime store variety), which really instilled in me my great interest in the outdoors.

PARENTAL CARE AMONG THE CICHLIDS

Gordon Hamre

The Cichlids (pronounced SICKlids) are spiny-rayed fishes chiefly native to Africa, Central America and tropical South America. In general, they are similar to our perches and sunfishes. The body is usually deep, often disc-shaped and strongly compressed. The long-based dorsal fin and the shorter-based anal fin always consist of anterior spinous and posterior soft-rayed portions. The lateral line is usually in two parts; the upper portion appears broken off, continuing at a lower level.

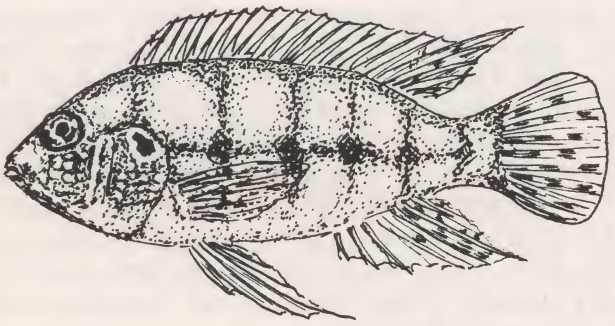
Although most of the Cichlids tend to be quarrelsome with their own kind and toward other species, if left undisturbed while tending their young they usually make excellent parents. They go to great ends to care for and protect the fry. This is accomplished in many various ways. Some lay their eggs on a firm surface or leaf and care for them there, while others, known as "mouthbrooders", take the eggs and fry into their mouths, protecting them until they are large enough to fend for themselves.

The greatest portion of the Cichlids spawn in the way first mentioned. The pair choose a relatively flat, firm surface on which to spawn, and clean the area meticulously. They most often pick a smooth stone, or a flower pot if they are being bred in an aquarium, but occasionally they may choose the side or bottom of the aquarium or heater tube. Once they are certain the area is clean enough, the female will slowly glide over the area, her ovipositor placing a certain number of eggs on the surface, usually in a string. This is repeated several times and she then moves off, and the male fertilizes them. This is repeated over and over again until all the eggs are laid. As many as 5000 eggs may be laid at one time, but this depends on the species, their size, age, and physical condition. Normally, the number is much less.

At this point the parents begin to care for the eggs. In some genera, however, (e.g. Apistogramma), the male is driven away by the female, who is frequently only half his size, and she cares for the eggs alone. But in most species both parents care for the young.

They begin by fanning the closely packed group of eggs with their large pectoral fins. This ensures the constant circulation of water around them and it also prevents the settling of any sediment on them. One parent will then begin "mouthing" the eggs. This also helps to keep them clean. While doing this, they may come across an egg which has been infected with a fungus. Although it may appear as though they eat it, the slight pressure put on the egg causes it to disintegrate, since the diseased tissue is not as strong as the healthy tissue. These fishes are not intelligent enough to conscientiously pick out a white infected egg from its healthy neighbours. In some cases where a pair "eat" their eggs, it could be that none of them was properly fertilized. However, more often than not, the pair is frightened, or has developed a taste for caviar.

A species of PELMATOCHROMIS, one of the Cichlids



drawing by Susan Ashbrook

In two to four days, depending on the species and the water temperature, the eggs hatch. At this point the young, often helped out of the shell by the parents, are transported in the parents' mouths to previously prepared depressions in the gravel. They are now a wriggling mass of fry. For the next day or so, the parents will periodically move the fry to different depressions in the gravel until the yolk-sac is absorbed. In some cases, such as the Angel Fish (Pterophyllum sp.), the young will be placed on a large leaf instead of in a depression in the gravel. These movements of the fry are important, in that they prevent the accumulation of sediments in the depression or on the leaf.

Once the fry have become free-swimming, food is a necessity. In the case of the discus (Symphysodon sp.) the first food is supplied by the parents in the form of a slime which is secreted on the bodies of the parents. This is an exception to the general rule however, and in most cases the best first food is young Daphnia, or live baby brine shrimp. At this point, the parents will be herding the young around in a large swarm, so the adults are best removed, in case they get tired of baby-sitting and decide to eat their progeny. In a short time the parents are again ready to spawn, and should be allowed to do so.

The mouthbrooding Cichlids spawn in quite a different way. A flat surface is found by the prospective parents, quite often by removing all the gravel and exposing the bottom of the aquarium. Then, depending on the species, there are two usual ways for the spawning to proceed. The first way is for the female to lay her eggs on the prepared surface and then pick them up in her mouth. Once this is completed, the male spreads his anal fin in front of his mate. On his anal fin are round spots. Seeing these spots, the female goes over and attempts to pick them up thinking they are eggs. Instead, she gets a mouthful of sperm, and thus the eggs are fertilized. The female then goes into hiding to care for the eggs and fry.

For the first four days or so, she continually "chews" the eggs, keeping them clean and moving. Usually the eggs are large and there are not too many of them. With most species there are seldom over a

hundred. The eggs then hatch, but the fry remain in their mother's mouth until the yolk-sac is absorbed. They then dart in and out, searching for suitable food. As they become older and larger, they become more and more independent, but when frightened, they rush back to the female and are allowed into the safety of her mouth. This goes on, virtually until the fry are too large to get into their mother's mouth. This may take as long as 28 days, at the end of which the female is usually very thin and weak, and she must be allowed to recover fully before she spawns again.

The second method of spawning is not nearly so common, but is best known in the "Eartheater" (Geophagus jurupari). The eggs are laid on a flat surface and guarded for a day or two. Then the eggs are picked up by the parents and guarded in their mouths where they hatch and stay until the fry are too large to be accommodated in their parents' mouths.

It must be pointed out that although the methods of spawning of the Cichlids are strange, they are by no means unique. The Pumpkinseed (Lepomis gibbosus, family Centrarchidae), which is so common in this area, spawns in a way similar to many of the Cichlids in that the male guards the eggs and fry in a depression he has scooped out of the sand. The Arowana (Osteoglossum bicirrhosum, family Osteoglossidae), which is native to South America, cares for the eggs and fry in its mouth.

Needless to say, the family Cichlidae will be popular with aquarists for many years, and although many are extremely difficult to keep, they are certainly worth the effort.

** ** **

Editor's Note: Although the above article does not conform to our declared subject matter (Ottawa Valley natural history), we made an exception to let T & L readers enjoy an interesting and well-written account by a member of the Macoun Field Club, which originally appeared in their publication, The Little Bear. We intend it to remain the exception - we are not looking for articles on care or behaviour of pets in the home.

A follow-up of "TONY MARTIN" in T & L, Nov.-Dec. 1969:

HOW TO PLEASE PURPLE MARTINS

Arnold Froom and Bess Lauzon

In reply to a request for information on how to build a Purple Martin bird house, we could do no better than to advise that for the inveterate martin lover, there is a paper published by the Griggsville Wild Bird Society, in the "Purple Martin Capital of the Nation", Griggsville, Illinois, through which you may obtain all kinds of information on martin houses, and everything else connected with martins. Their address is:

Griggsville Wild Bird Society,
Griggsville, Illinois 62340.

But there is other information, some of it gained from heartbreaking experience, which is pertinent to martin houses, and we are glad to pass this along with the sincere hope that it will help you to have bigger and better martin colonies.

1 Make an apartment house, the more rooms the better. Martins are gregarious. One martin house in Griggsville has over 3,000 apartments.

2 Each apartment should have at least 6" x 6" floor space, and 6" of head room. Some builders recommend up to 8" x 8" of floor space.

3 The entrance should be 2" in diameter and 1" above the floor.

4 If the interior of each apartment is painted with aluminum paint, the martins will like it but the starlings won't.

5 Martins like plenty of perches on which to convene meetings to chat about home and community matters.

6 Each room should have only one entrance. Just below the ceiling there should be a couple of holes the size of a ten-cent piece for ventilation. Baby martins hatch around June 21st, and a hot day can be fatal without air circulation.

7 Each room should have a spoonful of sulphur scattered over the floor to combat mites. Little martins sometimes fall from the nest, driven out by heat and mites.

8 There should be a verandah at least 2" wide. Martins like to sit out. A railing on the outer edge of the verandah, about 3/4" above the deck, will help prevent babies from falling off.

9 The house should be placed on a pole at least 14 ft. above the ground, well away from trees. Martins like to glide down the runway toward home.

10 The exterior should be painted and well dried before the martins arrive.

11 The house should be in place and ready for tenants by April 5 in Ottawa and area. Scouts may inspect any time from April 7 to 20, or even later.

12 Martins winter in the Amazon Valley in Brazil. Male scouts arrive back on April 7, then they leave and return with the females about ten days later.

13 It sometimes takes several years to establish a colony but you are likely to have visiting martins the very first year.

14 Once you have a colony established, they will return each year. Some sunny day in April, a member of your family will burst through the door shouting, "the martins are back!" and at that point, beware! for the whole family may become infected with a contagion known to martin lovers as "Martin Fever".

For further information, contact Mr. Arnold Froom at 733-0642.

More news of that newcomer ....

SENECIO VISCOSUS: Sticky Groundsel

The note by T. J. Cole* reporting the presence of the Sticky Groundsel in Fitzroy Provincial Park (3 on Map) interests me because I found Senecio viscosus L. one hundred miles farther inland at Des Joachim, P. Q. in October and November of 1960. Like Mr. Cole, I was surprised. At that time there were quite a few plants on the island between the Ottawa River and the present Control Channel. They were at the edge of an extensive gravel pit excavated when the Hydro Electric Dam was built. The plants were on the east side of the area, above Bell Lake (1 on map). I have since found one plant in a gravel bank beside a dirt road on the Penniseault or Dumoine road on the Quebec mainland some four miles north of the gravel pit (2 on map).

On checking information about groundsel in Gray's Manual of Botany (8th ed. 1950), I found the habitat and distribution given as waste places, railroad-yards, etc., Newfoundland to southern New York and casual about ports southward. It was further stated that the species was naturalized from Europe. Gleason's revision of "The New Britton and Brown" in 1963 also stated that the plant is a native of Europe, now more or less established in waste places from Nova Scotia to Pennsylvania and New Jersey near the coasts.

In the late 1940's and early 1950's when the Des Joachim Dam was under construction, many workers and their families came to the area directly from Europe. Trainloads of equipment must also have been brought in. I assume that some of the dandelion-like Senecio seeds arrived from the coast at that time, possibly in a pocket, perhaps in a railway car, or perhaps in packing around equipment.

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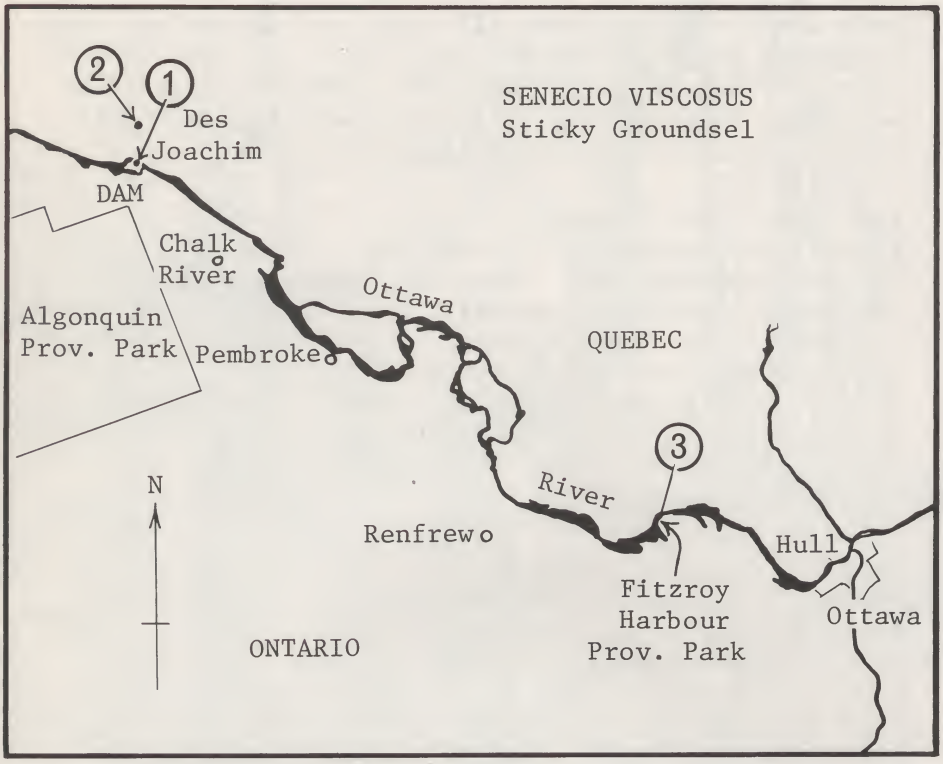
*Trail & Landscape, Vol. 4 No. 1, Jan.-Feb., 1970.

PRICKLY NEIGHBOURS

a snapshotstory by
Anne Hanes

Any cottager will tell you that a porcupine's favourite dish is plywood. Also relished are tool handles, cardboard cartons, any salty wood. Before these toothsome delicacies appeared, however, porkies subsisted on other things, and a few still scrape a living from the bark of such tasty trees as sugar maple and beech.

Where do our bristly friends sleep when they have had their fill? On a snowy Sunday in January we visited a number of porcupines in winter quarters in Gatineau Park. We followed a trail of broad prints, closely spaced in a wide track, which occasionally showed marks where a tail swept the surface as its owner waddled along. The porcupine, a plantigrade mammal like you and me, walks on the soles of its feet, not just on toes and balls as a dog or cat does.



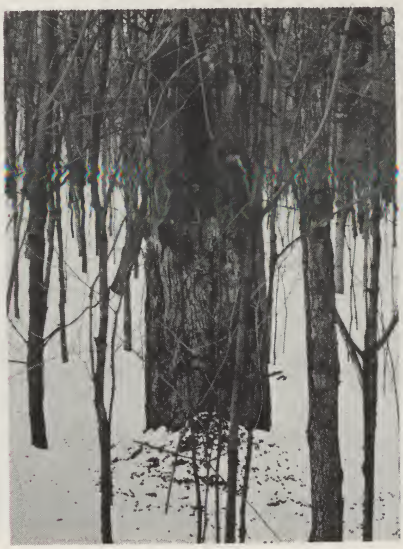
Perhaps the seed for the Fitzroy Harbour plants came from Des Joachim, carried in recent years by the prevailing wind; in which case, it may be found on waste land between the two locations. Time will tell.

Mary I. Moore,

Curator of the Herbarium,
Petawawa Forest Experiment Station,
Chalk River, Ontario

The trail led to a heap of oval brown droppings and a sloping tunnel in the snow, the entrance to a snug cave near the top of a rocky hillside.

Another telltale heap on the snow was beneath a tree cavity. Looking closer, we saw the owner at home. Prints in the snow showed that a fisher had approached the tree base, then continued on its way again. We wonder if it bothered to climb the tree and whether the homeowner was inside at the time. Fishers, we're told, are the only animals that habitually kill porcupines for food, but they can only do so in the open where they first flip the prey over to attack the undefended underside. Wedged into this snug maple hollow, a porcupine could snooze safely enough.



ELECTIONS and APPOINTMENTS, 1970

The Ottawa Field-Naturalists' Club

Here are the people who will serve you in various capacities in the Club for the year 1970. By directing to them your suggestions, requests, comments, criticisms or offers of help, you will help your organization to achieve an active participating membership.

President: Dr. Theodore Mosquin
First Vice-President: Mr. William Holland
Second Vice-President: Mrs. H.A. Thomson
Secretary: Mr. A.W. Rathwell
Treasurer: Mr. F.M. Brigham
Business Manager: Mr. J.W. Cody
Editor, The Canadian Field-Naturalist: Dr. T. Mosquin
Editor, Trail & Landscape: Mrs. G.R. Hanes

Committee Chairmen:
Publications: Dr. J.M. Gillett
Excursions & Lectures: Dr. Ewen C.D. Todd
Finance: Miss Luella Howden
Membership: Dr. I.M. Brodo
Public Relations: W. Holland
Macoun Field Club: Dr. I.M. Brodo
Bird Census: F.M. Brigham
Natural Areas: H.N. MacKenzie (acting chairman)
FON Affairs: Mrs. H.N. MacKenzie (acting chairman)
Education: T.J. Cole

Other Members of Council: D. Brunton, Mrs. J. Coleman, Dr. W.T. Dean, Miss J. Dunston, Dr. W.I. Illman, J. Kelly, Miss L. Kingston, J.D. Lafontaine, Dr. F. Leblanc, Dr. A.H. MacPherson, G.H. McGee, B. Morin, Miss P. Narraway, J. O'Connor, Dr. A.E. Porsild, A. Sheppard, Miss M. Stuart, H.E. Sweers

** ** **

CAR DECALS. For those who have acquired new or additional vehicles since the decals were issued, OFNC car decals are available from the treasurer at seventy-five cents each.

This vine-covered ruin was the romantic retreat for two quilly denizens who set up housekeeping in a roomy hollow beneath a collapsed portion of its roof.

Here is one resident coming up now to see who is disturbing the peace.

BEAVER POND IN GATINEAU PARK, APRIL Marguerite Sweers

BIRD WATCHING IN COMFORT by Ann Childs

Winter always poses problems for bird watching. It is snowy, wet or too cold to be outside for long. I am looking forward to another winter of "bird watching in comfort".

I am very lucky to have friends who have a lovely home in fifteen acres of woodland. The living room has picture windows looking out to three different directions and feeding stations. During a typical day out there you accomplish very little, chasing from one window to another -- watching. Breakfast seems to be the worst time! I have just been handed my breakfast; I take a few mouthfuls and then spot a strange bird climbing the elm tree. It is obviously a woodpecker, completely black backed, white underneath. I get the glasses, which are always on hand, and find it has yellow on the head, and the sides are barred. Reference to the book confirms a male Black-backed Three-toed Woodpecker -- a new species for me. A flock of smaller birds lands in the top of a nearby birch clump. They are very busy hanging and feeding on the catkins. The light isn't too good. One has a pinkish breast, another has a dark coloured head: redpolls? As they fly to another clump the light is better. They are definitely redpolls.

By the time you return to the table your breakfast is cold! To help eat cold egg and bacon you just watch the antics of the chickadees on the bird table. You would think each one owned it the way they chase each other off. A White-breasted Nuthatch manages to secure some breakfast while the chickadees are busy arguing. Blue Jays fly from tree to tree and then, down -- its their turn! Chickadees and nuthatches attempt to land but find it occupied by someone too big to contend with so go on to the fat basket. Hairys and downys have been climbing tree after tree, waiting, so down they come. A junco hops under the feeding table picking up the fallen pieces.

EXCURSIONS AND LECTURES IN MARCH AND APRIL

Arranged by the E & L Committee
Ewen C.D. Todd, Chairman

Saturday 7th March — FILM NIGHT
Superb films on wildlife and conservation from the Sierra Club. Place: Auditorium, National Library, Wellington St. Time: 8:00 p.m.

Friday 20th March — FLOWER RECOGNITION TALKS
Friday 27th March
Friday 3rd April
Dr. J.M. Gillett helps you to recognize our spring and summer wildflowers and trees with the aid of slides, pressed specimens and keys. Place: Room 156, National Library, Wellington St. Time: 8:00 p.m.

Sunday 22nd March — TRIP TO SEE NESTING GREAT HORNED OWL
Leader: W.A. Holland (234-6701) Meeting Place: Billings Bridge Plaza Time: 8:00 a.m.

March — BIRDS OF THE OTTAWA AREA
For time, place, and leader - watch John Bird(Journal) and Wilf Bell (Citizen) columns.

Saturday 4th April — BIRDING AT PRESQU'ILE PROVINCIAL PARK
Waterfowl in migration. Because of an early start an overnight stay at the White House, Brighton, is recommended. For reservations and further information phone John Kelly (232-3148) before 28th March.

Wednesday 8th April — TOXIC CHEMICALS AND WILDLIFE
J.A. Keith of the Canadian Wildlife Service will give us some of the facts about the significance of pesticides on our countryside. Place: Room 156, National Library, Wellington St. Time: 8:00 p.m.

Sunday 12th April — MARSH BIRDS AT RAMSAYVILLE
Sunday 19th April
Sunday 26th April
Leader: John Kelly (232-3148) and others.
Place: Anderson Rd. at CNR tracks north of Russell Rd.
Time: 7:00 a.m.

Before you realize it, half the morning has gone! Dish washing time. That's no chore here; there is a feeding table attached to the window above the sink. The birds are so tame they don't worry, as long as you move slowly. Chickadees and nuthatches are the main visitors. A large yellowish finch lands and takes off again, not quite sure. The Evening Grosbeaks are back. There seems to be only a male; but last year there was a 'scout' and he was soon followed by a large flock which stayed well into spring. He sits for a long time on a birch branch - watching. He'll be down again.

Not lunch time already! Things quieten a little. There is still plenty of activity with the chickadees, nuthatches, hairys and downys. The Blue Jays never give up either. Afternoons don't seem to be a very active time for the birds, so perhaps something else can be accomplished! There are odd bird visitors plus a very fat black squirrel. Despite squirrel-deterrents they still manage to climb up, or do balancing tricks along a thin wire to the hanging fat basket.

Let's brave the elements for a hike! A walk through the woods might easily flush one of the ruffed grouse. A flock of snow buntings landing and taking off along the track indicates winter is really coming. The redpolls are still busy, now feeding on grasses. A flock of tree sparrows flies by. The Pileated Woodpecker might show himself if I'm lucky. He seems to be very shy.

The thought of the roaring log fire lures one inside again. This is the way, sitting in a very comfortable easy chair with the crackling log fire in front of you. Looking to my right I can see the birch clump -- the redpolls, the black-backed, chickadees and the Evening Grosbeak are still busy. Looking to my left I see the main bird table and one fat basket. Nuthatches, -- wait, that's too small for a white-breasted, and it has an eye stripe. The red-breasted is back again.

As you think back over the day, the numerous varieties seen so close and in such comfort, you wonder what's in store for the really cold spells. Will the cardinals and the shrike be back? What else will visit us while we watch in comfort?

Excursions and Lectures in March and April

(continued from page 68)

Tuesday 28th April AMPHIBIANS IN SPRING
Leader: Gary Hanes (749-2400). Meeting Place: Health and Welfare Building. Time: 7:30 p.m. Flashlight, rubber boots will be useful; dress warmly.

Thursday 7th May ANNUAL DINNER
will be held in the Clarke Room at the R.A. Centre on Riverside Drive (OTC Bus 23 or 82) at 7:00 p.m. Social Hour at 6:00 p.m. Our Guest Speaker will be Douglas H. Fullerton, Chairman of the National Capital Commission, who will give a short talk entitled 'Building a National Capital Region - Problems and Priorities', followed by a question period. If you have questions concerning the N.C.C. please consult Ewen Todd at 729-5996 (to avoid duplication).

BUFFET STYLE DINNER - Tickets $3.00 per person

For reservations please phone T. Cole at 729-7947. All tickets are to be paid for by Monday 4th May.

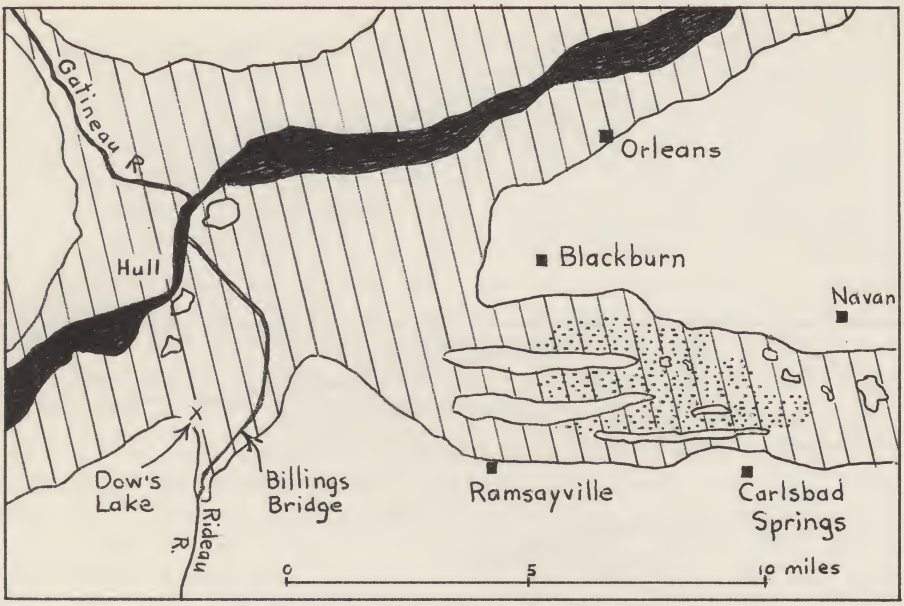
The trip to Hamilton in May is provisionally fixed for the weekend of May 23/24. Anyone wishing to go who didn't return the form please phone T. Cole at 729-7947. There are still a few places vacant on the coach.

THE MER BLEUE BOG

The Mer Bleue is our only easily accessible example of a boreal forest bog. It is a dozen miles east of Ottawa in what was, at one of the later stages during the retreat of the last glacier, the south channel of the Ottawa River. (See the hatched area on the map opposite. Notice the long, thin islands in the vicinity of Ramsayville - Blackburn, which are now a prominent feature of the Mer Bleue landscape.)

When the water level dropped, more than 7500 years ago, the present course of the Ottawa River was established, and a shallow, water-filled depression remained on the flat bottom of the south channel. Duckweed, waterlilies, and other pond plants soon took root in this stagnant water, eventually building a layer of organic material which could support sedges and cottongrasses. Sphagnum mosses began and continued to form ever-thickening clumps among the sedges until a thick mossy layer covered the whole pond.

THE MER BLEUE BOG off the northwest of Poplar Island
photo by Joyce Dunston



AN ANCESTRAL OTTAWA RIVER

Present course of the Ottawa River

Course of the river before 7500 years ago

The present Mer Bleue Bog

Because stagnant pond water does not contain much oxygen, the older layers of moss do not decompose very much when they die, but rather, they break down somewhat to make the water acidic. You can best picture the bog as a saucer snugly filled with spongy, half-decomposed moss holding an enormous amount of water. The surface is slightly raised in the center.

Only very hardy plants, or those specially adapted to acidic conditions can grow on a bog. Low-growing heaths such as leatherleaf, sheep laurel, bog rosemary, and blueberries become established first, followed by some larger trees, particularly black spruce and tamarack in this climate. These plants grow in the upper, less acidic layers of the moss, and even the largest trees are not too firmly anchored. If you jump up and down near a tree, you can make it sway. (Don't jump too long in one spot or you might fall through - another reminder that solid earth is no closer than some twenty feet below.)

TRAIL & LANDSCAPE

published by

THE OTTAWA FIELD-NATURALISTS' CLUB

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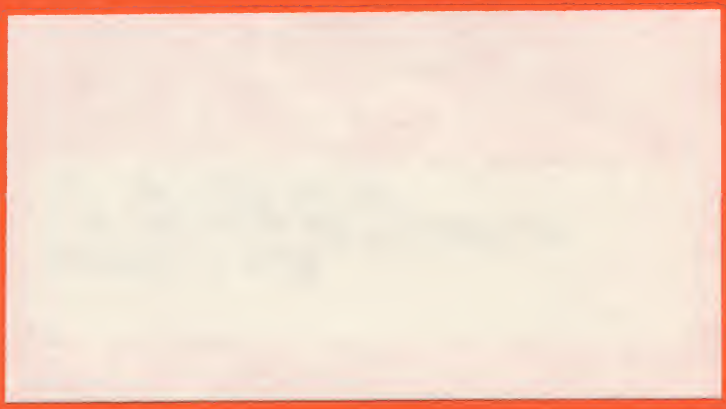
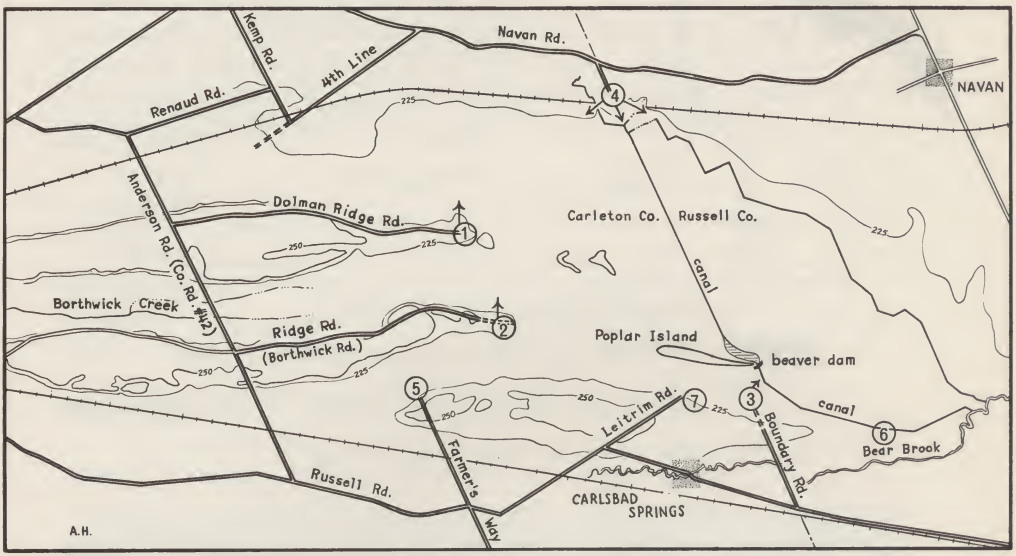


Lithographed by
John Marquardt, Printer

There is no end to the exploring and observing to be done in the Mer Bleue region. Expeditions can vary from an easy drive around the bog to study the general layout and the variety of habitats (only 36 miles including the short trips to the end of every road shown pointing into the bog on the map below) to a fairly strenuous, all-day hike into one particular site.



Site 1: Follow the Dolman Ridge Road eastward to its end (a gate). Notice that you are driving into the heart of the bog along a sandy ridge which was the northmost of the two long islands when the Ottawa River flowed past here. Don't go behind the gate because that part of the bog was used as a bombing range during the Second World War, and it is still used for explosives tests. Cutting across the sandy field to the left, next to the house, brings you to the easiest entrance onto the bog that I know about. Simply wade along the fenceline a short distance to get to extensive blueberry patches, loaded with dusty blue fruit in July. Also look for the dainty pink orchid, Calopogon, which grows here and there in the moss.

Site 2: The Ridge Road tops the second sandy ridge eastward into the bog. Continue driving on the track

across the sand pits until the track drops over a ridge to a wet meadow. In the autumn this is the place to admire the red-gold of the tamaracks on the bog to the north. This part of the bog is so acidic that practically nothing grows on the bog-forest floor except emerald-green sphagnum. The Borthwick Creek, one of the major outlets, flows past here, making for a rather prolonged bit of wading before the actual bog is reached. Perhaps it is better to take advantage of this point to observe the different habitats - wet meadow, reedy margin, and pointed silhouettes of black spruce and tamarack - and their inhabitants.

The damp floor of the sandpit itself has been rapidly colonized by several types of interesting plants: the bushy-tailed bog clubmoss, the insectivorous sundew, and two orchids: Loesel's twayblade and nodding ladies'-tresses.

Site 3: At the end of the Boundary Road is the route to perhaps the most interesting part of the bog. Here one must deal with the drainage canal which surrounds that section of bog which is in Russell County. Once over the canal, one can push on in a northeast direction through alder thickets and marsh to another excellent blueberry region. There is a good assortment of bog plants - multitudes of pitcher plants, for instance, and dense colonies of the orchid, rose pogonia.

Westward, the ridge of Poplar Island gives a good view of a beaver lodge and pond in the dammed drainage canal. The west end of the island gives access to an open black spruce - tamarack region. One wonders whether the rare orchid, southern twayblade, reported from the Mer Bleue in 1893, could still be growing in this sheltered corner. Perhaps the elusive white-fringed orchid can be found here too.

Site 4 is the best lookout on the Mer Bleue - a vast green dish of moss and trees set in among the low, sandy ridges.

Sites 4, 5 and 6 offer the explorer additional and potentially interesting routes onto the bog. Don't be too hasty about trying Site 7, however, because local lore has it that the mossy layer is thin and full of holes here.

USEFUL REFERENCES FOR FURTHER STUDY

1 L.J. Chapman and D.F. Putnam's The Physiography of Southern Ontario, especially pages 37 to 50 for a complete story of the retreat of the last glacier and how it influenced the topography of this region.

2 The Canadian Field-Naturalist, Volume 83, issue 1, (1969) for the beginning of a series on the Mer Bleue. This particular issue is introduced with a good description of the bog and its recent history.

3 D.M. Baird's Guide to the Geology and Scenery of the National Capital Area, pages 24 to 28, and especially page 27, which is a four-section fold-out aerial photograph of almost the entire Mer Bleue.

4 George McGee's Let's Go Birding -- in the Ramsayville Area, Trail & Landscape, Volume 1, page 48.

TWO BOG ORCHIDS: Rose Pogonia and Loesel's Twayblade - Joyce Dunston

Yours for the Asking .....

ANIMAL LIFE IN CANADA TODAY, by the Zoology Division, National Museum of Natural Sciences, is an admirably compact survey of an enormous subject: 100,000 different kinds of animals living in 3,852,000 square miles. A broad picture is presented of the animal kingdom and the large groups within it, the emphasis being on the patterns of distribution within Canada. Natural and historical factors are cited to explain the occurrence of many faunal elements in our varied environments - mountains, prairies, forests and tundras, the longest coastline of any country and over one quarter of the world's fresh water. Besides touching on what is known of our fauna, the authors point to some areas which await investigation, a challenge to students and naturalists. An attractive foldout page features 14 colour photos from the National Collection of Nature Photographs. Available free from National Museum, Ottawa 4.

ONTARIO SNAKES by Barbara Froom. Appearance, character, habits, life history and Ontario distribution of 15 species are described, illustrated by excellent photos. A strong plea is made for understanding and conserving these beneficial animals, often killed due to unreasoning prejudice. Those who may never learn to like snakes should try to appreciate their valuable role in nature. For a 36-page introduction to some worthwhile friends, write: Conservation Information Section, Dept. of Lands and Forests, Parliament Buildings, Toronto 5, Ontario.

WOLVES AND COYOTES IN ONTARIO has 14 pages of up-to-date information, based on research (some by radio telemetry) and reports of trappers and conservation officers, on two interesting animals. The wolf is being senselessly extirpated from much former range, and has still to be defended in Ontario. Coyote range has extended with the spread of agriculture. Appearance, distribution, numbers, ecology and life history, and current management of both species are described. There are sections on activity, feeding habits, wolf-deer and wolf-people relationships (e.g. successful wolf-howling excursions in Algonquin Park; we're less happy to know that mounted wolf heads are in demand by boy scout troups as totems). Photos, line drawings, and Ontario range map complete the picture. For a copy, write to address given above.

For Ottawa naturalists who were unaware of these activities in assessing river pollution, we reproduce an article from the Ontario Water Resources Commission publication WATERTALK, November 1968, just recently brought to our attention:

MASSIVE SURVEY ON OTTAWA

Observant residents along the stretch of the Ottawa River from Ottawa to Oka (a small village on the Quebec side) may have been surprised by a spurt of unusual activity on the river during a 3-day period last summer.

The careful observer might have noticed a helicopter, mysteriously flying down the river in short hops. Or, at any time of the day or night, a man inexplicably leaning over the side of a small boat, dipping what appeared to be a tin can attached to a rope into the river.

Such incomprehensible operations on a waterway can really mean only one thing: a water quality survey is in progress. In the above instance, what was being witnessed was the testing and sampling procedure of an intensive survey - part of a complex, joint study undertaken by the OWRC and the Quebec Water Board to outline in detail a guide for water quality control for the river basin by 1970.

A close look at the confined, intensive operation gives some idea of the scope and complexity entailed in the overall study. The objective was to thoroughly test and sample - within a 72-hour period of integrated activity between water quality technicians and industrial wastes specialists - a 90-mile stretch of the river running downstream from Ottawa. Into this section of the river drains treated and untreated wastes from a human population of about 600,000 in addition to the wastes of seven paper mills having an oxygen-demanding discharge equivalent to that produced by a population of about 4 million.

The main task force in the 72-hour operation consisted of about 40 OWRC and QWB personnel. The Federal Department of Public Works, Ontario Hydro and Quebec Hydro provided indispensable aid by controlling the water flow in the river in order to provide a basis

for the calculation of the effect of waste effluents. This involved adjusting the flow at nine dams from Temiskaming to Ottawa.

Headquarters for OWRC activities was the Commission's mobile laboratory, moved to the Carleton campus for the duration of the overall study. During daylight hours, two helicopters flew sampling sorties from the mobile laboratory snatching up samples of the water along the river from Ottawa to Hawkesbury. Special equipment in the 'copters automatically measured the dissolved oxygen content and temperature of the river at each touchdown.

Helicopter sampling was supplemented by boats operating at strategic points along the river and along the waterfront of Ottawa itself. Sampling from the boats continued throughout the night, during the intensive survey, in order to provide data for the construction of a picture reflecting the water quality of the river over a 24-hour period.

The upshot of all the activity was that by the time the 72-hour period of integrated effort was ended, 800 dissolved oxygen and temperature tests had been made and 600 samples taken. The objective achieved and water flow in the river back to normal, most of the OWRC team returned to Toronto to begin analysis of data.

Other complicated operations, conducted since the study plan was inaugurated in 1967, include dispersion studies to determine the intermixing of waste water inputs and tributaries with the river, aerial surveillance to locate waste outfalls, and sonar readings to establish a number of river cross-sections to supplement the federal government's hydrographic charts of the river. These operations provided a base for the planning of chemical and biological surveys.

When combined with data derived from biological tests and monthly monitoring runs, the information obtained from the intensive study will aid in enabling OWRC and QWB to develop a mathematical model assessing the quality of water under varying conditions. From this, Ontario and Quebec will be able to establish allowable waste loads for the river, and ultimately, draw up the guidelines for water use development in the basin.

INFORMATION FOR CONTRIBUTORS
to Trail & Landscape

Readership: Present circulation of T & L is about 550. This includes local (Ottawa Valley) members of the OFNC, outside members who request it, subscribers, and local institutions concurrently subscribing to The Canadian Field-Naturalist.

Purposes of T & L are to foster interest in the natural world and matters which affect it, to increase readers' enjoyment of hours spent outdoors, and to further the objectives of the OFNC (see inside front cover).

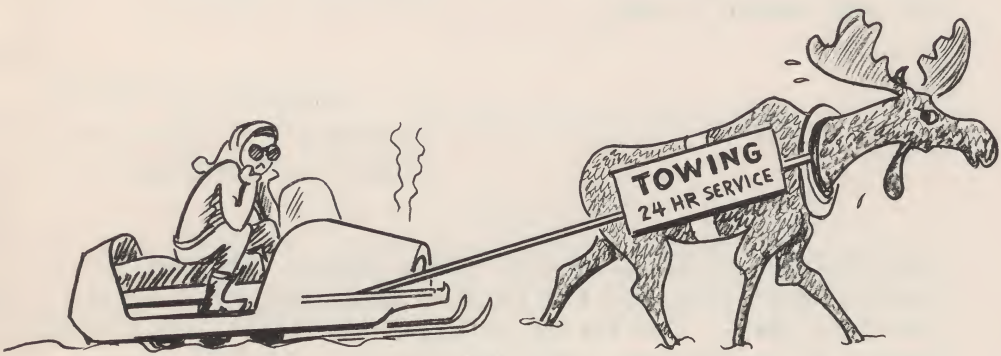
Subject Matter of contributions: Articles and notes may describe any phase of nature observation or study, preferably relating to the flora, fauna or ecology of the Ottawa area, or more broadly, eastern Ontario - western Quebec. We try to include a wide range of subjects; for examples, see back numbers. Especially welcome are observations based on personal investigations or experiences in the natural world. Letters to the Editor might give opinions or suggestions about the magazine or the Club; they must be signed. Contributions are invited from any reader. It is our hope to continue to publish work of both amateurs and professionals. To ensure that material will be understandable to non-technical readers, we recommend use of common names (where such exist), illustrations, and some introductory comment where needed to place an author's specialized study in perspective. Technical terms are not out of place if defined with the layman in mind. Manuscripts need not be typewritten, but should be carefully checked by the author, as 'proofs' cannot be provided prior to printing.

Illustrations: Drawings, photos and maps are welcomed. Original work is preferred; if copyrighted material is used, the author should obtain permission for reproduction. Line drawings in black ink (pen, brush, stipple, spatter, etc.) are more satisfactory for our reproduction method than pencil work with soft shading. Black and white photos reproduce well (glossy prints preferred). Colour transparencies can only be used if B & W prints are obtained from them first, and are not usually as satisfactory as those made on B & W film initially.

Photographer-naturalists are invited to make up a picture story - a series of photos on a related theme, with a little text to give continuity or explanation. Examples: unfolding of a tree bud; activity at a bird feeder; flowers of a vacant lot; aftermath of a snowstorm. See "Bear Trees", Sept. 1969, and "Prickly Neighbours" on page 21.

Publication Dates: Our backlog of material at present is not large. If you have a suitable article or note half-written (in mind or on paper!) the Editors would be pleased to have you finish and submit it soon. We can't promise instant publication, but will acknowledge all contributions, and file acceptable ones to be used in the earliest appropriate issue. Material will be used more or less in order of acceptance, allowing for appearance at the appropriate season, maintenance of diversity, and space limitations. Articles occupying more than 4 or 5 pages may have to be divided and published in more than one issue, although extra pages might be included in one issue if they can be subsidized at cost. Deadlines are one month before date of issue (or when we have enough for a good issue, whichever comes first!)

Author's Reprints Our reproduction method does not allow printing copies of a few pages alone. To obtain reprints, an author may purchase extra copies of the whole issue, at a nominal charge. Requests for these should be made with submission of the article.



Don't Dump Trouble

So, the Ontario Government has decided to ban DDT, and you, in your basement or garage, have half a bag of DDT dust and a bottle or two of sprays containing DDT. Now what?!

Quite obviously you cannot pour them down the sink - that would be worse than using them. They would go straight into the river and increase the pollution no end. Equally obviously you cannot take them out into the bush and lose them (NOT THAT YOU WOULD!!!), nor put them into the garbage bin. What <u>are</u> you to do?

To be quite honest WE DON'T KNOW. The Ontario Department of Health doesn't know either, but they are working on a solution and have promised to keep us informed. In the meantime - please DON'T DUMP DDT. As soon as we know of a safe disposal method we will let you know. Also would you spread the word among your friends and neighbours not to dump. Please, for our health's sake.

T. J. Cole,
Chairman
Education Committee

OUR GRATEFUL APPRECIATION to those people who have in various ways assisted the regular staff of T & L during the past year. Courtesies extended to us by the National Museum of Canada have been invaluable. Special thanks are due to the following: G. Bayly, N.E. Buck, J. Coleman, Alison Dickison, J. Kempt, G. McNeill, W.M. Snyder.

EXCURSIONS AND LECTURES in January and February

Arranged by the E & L Comittee
T. J. Cole, Chairman

Saturday 10 January — A VISIT TO THE NEW GREENHOUSES AT CARLETON UNIVERSITY

Not realy a field-naturalists' subject,but we thought you might appreciate the sight of something growing at this time of the year.
Leader : Bill Illman
Meet : Carleton University Greenhouses
Time : 2.00 p.m.

Friday 23 January — INSECT POPULATIONS AND MAN

A talk by Dr. O. Peck of the Entomology Research Institute. Knowing Dr. Peck, we are assured of a very interesting talk.
Place : Room 156, National Library, Wellington St.
Time : 8.00 p.m.

Sunday 8 February — OWLS, SNOWY AND OTHERS

A trip to find some of our Winter Visitors. Bring a hot drink.
Leader : Bill Holland
Meet : Health & Welfare Bldg. Tunney's Pasture
Time : 9.00 a.m.

Friday 13 February
" 20 "
" 27 " — BIRD RECOGNITION TALKS

George McGee has agreed to give this very popular series once again. A chance for new-comers to the Club to learn the basics of birdwatching and for the more experienced to improve their knowledge.
Place : Room 156 National Library, Wellington St.
Time : 8.00 p.m.

TRAIL & LANDSCAPE

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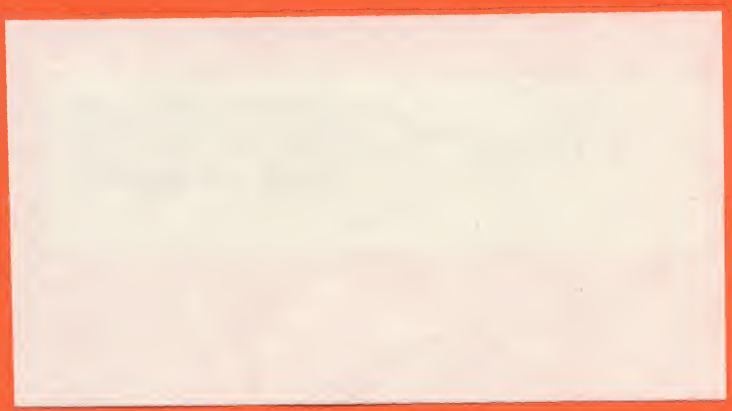

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